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PROCEEDINGS
OF THE
AMERICAN PHILOSOPHICAL SOCIETY.

VOL. V. JANUARY—MARCH, 1849. No. 42.

Stated Meeting, January 5.

Present, twenty members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

The returns of the election for officers, held this day, were presented and read, when it appeared that the following gentlemen had been elected:—

President.

Dr. Robert M. Patterson.

Vice-Presidents.

Dr. Franklin Bache,
Alexander Dallas Bache,
John K. Kane.

Secretaries.

Dr. Robley Dunglison,
John F. Frazer,
Charles B. Trego,
E. Otis Kendall.

Members of the Council for Three Years.

Thomas Biddle,
Isaac Lea,
Hartman Kuhn,
Alfred L. Elwyn.

Curators.

Franklin Peale,
John Price Wetherill,
John C. Cresson.

Treasurer.

Benjamin W. Richards.

The President, upon taking the chair, expressed his thanks to the Society for the honour which they had done him in electing him to the office.

Letters were received and read:—

From the First Class of the Royal Institute of Sciences, Belles Lettres and Arts, of the Low Countries, dated Amsterdam, 11th October, 1848, announcing a donation to the Society:—

From the Secretary of the Society of Antiquaries, dated London, 17th November, 1848, acknowledging the receipt of Vol. X., New Series, Part I., of the Transactions, and of Vol. IV., Nos. 36, 37, 38, and 39, of the Proceedings of this Society: and,—

From Prof. A. D. Bache, Superintendent U. S. Coast Survey, dated Washington, 2d January, 1849, accompanying a copy of his Report on the Coast Survey for the past year, and asking the consideration, by the Society, “of the scientific character and results, of the practical results, and of the progress of the survey, and inviting any suggestions tending to improvement in the different departments of the work.”

Which letter was, on motion of Prof. Frazer, referred to a Committee, consisting of Dr. R. M. Patterson, Prof. Frazer, Prof. Kendall, Mr. Justice, and Judge Kane, with instructions to report at the next meeting of the Society.

The following donations were announced:—

FOR THE LIBRARY.

Verhandelingen der Eerste Klasse van het Koninklijk Nederlandsche Instituut van Wetenschappen, Letterkunde en Schoone Kunsten te Amsterdam. 3e Reeks: 1en Deels: 1te Stuk. Amsterdam, 1848. 4to.—*From the Royal Netherlands Institute of Sciences, &c.*

Tijdschrift voor de Wis-en Natuurkundige Wetenschappen, uitgegeven door de Eerste Klasse van het Koninklijk Nederlandsche Instituut van Wetenschappen, Letterkunde en Schoone Kunsten. Eerste Deel: 4e aflevering, and Tweede Deel, 1e and 2e aflevering. Amsterdam, 1848. 8vo.—*From the same.*

A Biographical Sketch of William Franklin, Governor from 1763 to 1776. By William A. Whitehead. Read before the New Jersey

Historical Society, September 27, 1848. 8vo.—*From the Author.*

Journal of the Franklin Institute. Third Series. Vol. XVI. No. 6. December, 1848. 8vo.—*From the Institute.*

The Slave Question: Letter from Henry C. Carey, Esq., to Nathan Appleton, Esq. January, 1849. 8vo.—*Anonymous.*

The Medical News and Library. Vol. VII. No. 73. January, 1849. Philadelphia. 8vo.—*From Messrs. Lea & Blanchard.*

Letter from the Secretary of the Treasury, transmitting the Report of the Superintendent of the Coast Survey. Presented to Congress, December 18, 1848. Washington, 1848.—*From Prof. A. D. Bache, Superintendent of U. S. Coast Survey.*

Map of Delaware River and Bay; executed under the Direction of the Coast Survey of the United States.—*From the same.*

Prof. Frazer read to the Society the following letter from Dr. Locke to Dr. Patterson, and exhibited a specimen of the record made by the clock alluded to.

Cincinnati, Dec. 30th, 1848.

DEAR DOCTOR,

Every inventor is apt to become enamoured of his productions, and not unfrequently obtrudes them unseasonably upon his friends. With this view before me, it is not without some hesitation, that I enclose to you a specimen of the performance of my telegraphic clock, which I have invented upon the suggestion and solicitation of our able friend, Sears C. Walker. You will see by the specimen, that the seconds are marked by lines about half an inch long. The minute zero is marked by the confluence of two lines, the break between two seconds being omitted. The five minute signal is a dash, three seconds long, occurring *after* the minute zero, but referring back to it. The hour signal is a similar dash, occurring several seconds *before* the minute zero, and referring also to it as the beginning of an hour. Observations are entered by breaking the circuit by means of a finger key, under the hand of the observer. They come in in such a manner as to indicate the exact fraction of the second, legible at least to hundredths. But one clock is needed, and this will register its time at any part of the circuit. Observers and keys may be stationed also at any point in the circuit, and they are able to enter their observations on all the registers included in the line. Thus we have a very faithful ubiquitary clerk, relieving the observer from every thing but looking at the stars, and thumbing down his keys.

As the punctum of the observation is at the commencement of the break, and that may occur in the midst of the little breaks between the seconds, and thus involve a small fraction of error, I have invented a key which will cause a measured break, say $\frac{1}{4}$ second long, when either end of the break will be available, and if one is indefinite, the other will be measurable by scale and dividers. Bain, Steinheil, and Wheatstone, have invented telegraphic clocks; but, so far as I can learn, their object has been to make one clock drive others at the same rate on various points of the circuit.* The mechanical action interferes, too, with the pendulum. The invention of a clock, having nothing to disturb or obstruct the pendulum, or otherwise change its rate, and which shall register currently its time, and enter truly the observations in their exact place, in reference to time, is, so far as I know, new. The plan is certainly *original* with me, whether it be *new* or not. Atmospheric disturbance of the electrical current may, for a while, interfere with the action of my clock, but when that ceases, the clock will always strike in correctly and will recommence to register its minutes and seconds at their proper moment, according to the motions of the parent instrument. Not so with Bain's, which moves other clocks, for if the electricity be interrupted, the secondary clocks fall behind, and remain so.

Seconds: _____ 0

Seconds, and minute zero: _____

Five minute signal:

Minute zero. _____

0 _____ Five minute signal.

_____ Three Seconds.

Hour signal:

Hour signal. _____ Minute zero. _____

_____ 0

_____ Four seconds. _____ Hour commences.

Observations: _____ Obs. _____ Obs.

I have communicated my invention, step by step, to Mr. Bache, who has written me a letter approving the affair, though he says he does not know whether I am anticipated by any one. The use of this machine in determining longitude is obvious; for the interval on the fillet, between the breaks for a star transit at one meridian and

* It is easy to make a pendulum clock move another at a distance, by electro-magnetism, so long as the current passes well, but any atmospheric disturbance will put it out of time.

the same transit at another meridian, is the arc of difference of longitude registered in time.

Very sincerely, your friend,
JOHN LOCKE.

Pending nominations, Nos. 224 and 225, were read.

Stated Meeting, January 19.

Present, twenty members.

Dr. PATTERSON, President, in the Chair.

Letters were received and read:—

From the Directors of the Holland Society of Sciences, at Haarlem, dated Haarlem, 2d August, 1848, transmitting a donation to the Society:—

From the Regents of the University of the State of New York, dated Albany, 11th January, 1849, acknowledging the receipt of Vol. V. No. 41, of the Proceedings of this Society: and,—

From the Baroness Berzelius, dated Stockholm, 15th September, 1848, announcing the death of her husband on the 7th August, 1848, at the age of 69.

The following donations were announced:—

FOR THE LIBRARY.

Natuurkundige Verhandelingen van de Hollandsche Maatschappij der Wetenschappen te Haarlem. Tweede Verzameling: 5te Deel, 1e Stuk. Haarlem, 1848. 4to.—*From the Holland Society of Sciences at Haarlem.*

The American Journal of Science and Arts. Conducted by Professors Silliman and Dana. Second Series. No. 19. January, 1849. New Haven. 8vo.—*From the Editors.*

The American Journal of Medical Sciences. Edited by Isaac Hays, M.D. No. XXXIII. New Series. January, 1849. Philadelphia. 8vo.—*From Dr. Hays.*

The African Repository and Colonial Journal. Vol. XXV. No. 1. January, 1849. Washington. 8vo.—*From the American Colonization Society.*